

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)	
)	
Amendment of Parts 2 and 25 of the)	ET Docket No. 98-206
Commission's Rules to Permit Operation)	RM-9147
of NGSO FSS Systems Co-Frequency with)	RM-9245
GSO and Terrestrial Systems in the Ku-)	
Band Frequency Range)	
)	
Amendment of the Commission's Rules)	
to Authorize Subsidiary Terrestrial Use)	
of the 12.2-12.7 GHz Band by Direct)	
Broadcast Satellite Licensees and Their)	
Affiliates)	

**SUPPLEMENTAL COMMENTS OF
GE AMERICAN COMMUNICATIONS, INC.**

GE American Communications, Inc. ("GE Americom"), by its attorneys, hereby submits its supplemental comments in the above-referenced rulemaking proceeding¹ as a written *ex parte* presentation in response to the Public Notice issued by the Commission, DA 99-2733 (rel. Dec. 6, 1999) (the "Notice"). The Notice solicits further input regarding the issues addressed at the recent Conference Preparatory Meeting ("CPM") that was held in preparation for WRC-2000.

¹ See *In the Matter of Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, ET Docket No. 98-206, Notice of Proposed Rulemaking, 14 FCC Rcd 1131 (1998).

GE Americom supports the compromise position that was reached at the CPM regarding the appropriate equivalent power flux density ("EPFD") levels for NGSO systems with one critical proviso: the EPFD limits must be accompanied by adequate monitoring and enforcement measures to ensure that NGSO systems comply with the limits. Without such measures the EPFD limits will be completely meaningless. GE Americom sets out below the necessary elements of a regulatory framework for evaluating NGSO compliance with applicable limits and redressing violations.

DISCUSSION

GE Americom has participated actively in this proceeding, which is critical to the future of GSO operations in the Ku-band. In our previous filings², which we incorporate by reference herein, GE Americom emphasized that co-frequency operation by NGSO systems in the Ku-band could not be permitted to go forward unless the Commission took steps to protect the multi-billion investment of GE Americom and its customers in Ku-band GSO services. GE Americom and other GSO operators have expended substantial resources to evaluate NGSO proposals and attempt to develop a consensus regarding the appropriate technical parameters for NGSO operations.

² Comments of GE American Communications, Inc., ET Docket No. 98-206 (filed March 2, 1999); Reply Comments of GE American Communications, Inc., ET Docket No. 98-206 (filed April 14, 1999).

At the CPM, a compromise was reached regarding validation and operational EPFD limits for NGSO systems. GE Americom supports that compromise, despite the fact that it places a burden on GE Americom and other GSO operators.

However, as GE Americom has made clear from the beginning, the development of appropriate EPFD levels for NGSO systems is only one element of a comprehensive solution. Any limits adopted by WRC-2000 will be completely meaningless unless mechanisms to measure and enforce compliance with the limits are also put in place. The compromise decision at CPM on EPFD limits did not adequately address these issues. Instead, individual administrations are responsible for determining the means of ensuring that NGSO systems adhere to the applicable limits.

The FCC, therefore, must incorporate into its rules measures to ensure that NGSO operators comply in practice with the limits intended to restrict the harmful interference that GSO systems will experience due to co-frequency NGSO operations in the Ku-band. In addition, the FCC must establish procedures so that GSO systems can obtain prompt correction of any violations by NGSO systems of the operational limits. These provisions must be adopted contemporaneously with the limits and be in place before NGSO systems can be licensed.

Specifically, the Commission must address the following areas:

Licensing Standards: The Commission must set threshold licensing standards for NGSO systems that seek to operate in the U.S. Specifically, the Commission must adopt rules concerning the showing that will be required of an NGSO applicant before the Commission can grant a system license or authorize a foreign-licensed system to provide U.S. service. These pre-grant requirements are critical because it will be extremely difficult to measure operational power levels of in-orbit NGSO systems.

In particular, the Commission must require each NGSO applicant to make a full demonstration that its system is capable of complying with all operational limits, both the operational mask and the 100% not to exceed limits. This showing should include:

1. A demonstration that the NGSO system will meet the operational masks ($\text{EPFD}_{\text{down}}$ vs. percentage of time) using a software program provided by the NGSO, and showing the actual expected NGSO downlink power levels from the NGSO satellites' sidelobes under worst-case loading; and
2. Documentation showing the probability density functions of the $\text{EPFD}_{\text{down}}$ for specific geographic locations in the U.S. (chosen by the FCC and GSO operators) under maximum traffic loading.

With software projections of operational levels and maps of expected worst-case power characteristics at various locations, a determination can be made prior to launch as to the proposed NGSO system's ability to comply with applicable limits.

In addition, the NGSO proponent must be required to make a showing that its system will comply with the aggregate limits. The NGSO applicant must be required to disclose all information necessary for the Commission and other interested parties to independently verify the NGSO applicant's showing. Thus, any verification software relied on by the NGSO must be available and the assumptions underlying the program must be adequately described.

Measurement and Monitoring Issues: The Commission must also address issues relating to the accurate measurement of NGSO EPFD levels. The Commission will not be in a position to monitor compliance of NGSO systems with the EPFD limits unless appropriate measurement techniques have been developed. GE Americom and other participants in Working Party 4A (representing both GSO and NGSO systems) have been exploring the technical issues relating to accurately measuring the EPFD limits produced by NGSO systems. The Commission should take into account the results of the WP4A efforts in devising regulatory measures applicable to the measurement of NGSO power levels.

In addition, the Commission must take steps to ensure that information necessary for monitoring NGSO operations is available. NGSO operators should be required to file with the Commission and update as needed data

regarding the orbital parameters and individual spacecraft identifiers for their systems to ensure that the Commission and GSO system operators can determine the location of the satellites in each NGSO constellation at any given time.

Complaint Procedures: The Commission must also put in place procedures for the expedited resolution of complaints by GSO operators regarding violation of the NGSO power limits. Specifically, the Commission should determine the elements necessary for a GSO system to make a satisfactory *prima facie* showing that it has been harmed by NGSO operations. The Commission must also prescribe procedures to ensure that NGSO system operators receive prompt notice of GSO complaints. Provided the complaint meets Commission standards for specificity, the Commission should require the NGSO system to take immediate steps to provide relief pending further investigation by the Commission.

Sanctions: Finally, the Commission should establish sanctions for repeated violations of the power limits by any NGSO system. Available sanctions should include the authority to order an overall reduction in operational power levels affecting the U.S., fines, and revocation of license or operating authority.


CONCLUSION

GE Americom supports the CPM compromise on power limits for NGSO systems as part of a comprehensive regulatory solution for co-frequency NGSO operation in the Ku-band. In addition to adopting EPFD limits, the Commission must put in place a regulatory framework for the licensing and monitoring of NGSO systems as well as measures to ensure that violations of the power limits can be promptly cured.

Respectfully submitted,

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